

This Page Is Inserted by IFW Operations  
and is not a part of the Official Record

## **BEST AVAILABLE IMAGES**

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images may include (but are not limited to):

- BLACK BORDERS
- TEXT CUT OFF AT TOP, BOTTOM OR SIDES
- FADED TEXT
- ILLEGIBLE TEXT
- SKEWED/SLANTED IMAGES
- COLORED PHOTOS
- BLACK OR VERY BLACK AND WHITE DARK PHOTOS
- GRAY SCALE DOCUMENTS

**IMAGES ARE BEST AVAILABLE COPY.**

**As rescanning documents *will not* correct images,  
please do not report the images to the  
Image Problem Mailbox.**

## AMENDMENTS TO THE SPECIFICATION

Please replace the following paragraphs:

Page 10, line 27 to page 11, line 16.

The hardware component 110 has a hardware operating state such as (enabled or disabled), or (on or off). A user and/or the IHS is able to control the hardware operating state by instructing the hardware component 110 to change the hardware operating state to a desired or target operating state. The hardware component 110 is operable to receive at least one hardware input 112. The ~~at least one~~ hardware input 112 is changed to change the target hardware operating state for the hardware component 110. For example, if the present hardware operating state for the hardware component is disabled or off, and the user and/or the IHS would like to change the hardware operating state to enabled or on then the user and/or the IHS generates an instruction or command to change the ~~at least one~~ hardware input 112. The instruction or command may be in the form of turning on a binary switch associated with the hardware component 110. This information, which is indicative of the target hardware operating state, is received by the ~~at least one~~ hardware input 112. The hardware component 110 is operable to generate at least one hardware output 114 in response to receiving the ~~at least one~~ hardware input 112. The ~~at least one~~ hardware output 114 provides feedback to the user and/or the IHS indicative of the operating state of the wireless radio 105. In one embodiment, the ~~at least one~~ hardware output 114 includes a light emitting diode (LED) output, a sound output or a sensory feedback generating device.

Page 11, line 18 to page 12, line 11.

Similarly, the software component 120 has a software operating state such as (enabled or disabled), or (executing or not executing). A user and/or the IHS is able to control the software operating state by instructing the software component 120 to change the software operating state to a desired or target operating state. The software component 120 is operable to receive at least one software input 122. By changing the state of the ~~at least one~~ software input 122 the target software operating state for the software component 110 is changed. For example, if the present software operating state for the software component is disabled or not executing, and the user and/or the IHS would like to change the software operating state to enabled or executing then the user and/or the IHS generates an instruction or command to indicate the target software operating state. The instruction or command may be in the form of a user clicking on a button of a GUI associated with the software component 110. This information, which is indicative of the target software operating state, changes the ~~at least one~~ software input 122. The software component 120 is operable to generate at least one software output 124 in response to receiving the ~~at least one~~ software input 122. The ~~at least one~~ software output 124 provides feedback to the user and/or the IHS indicative of the operating state of the device. In one embodiment, the ~~at least one~~ software output 124 includes a graphical user interface (GUI) element, an icon, a simulated light emitting diode (LED) output, a returned parameter or a handle to a calling software program. In one embodiment, the ~~at least one~~ software output 124 may also trigger the ~~at least one~~ hardware output 114. Additional detail of the software component 120 is described in FIG. 3.

Page 12, line 13 to page 12, line 26.

In one embodiment, the coordination component 130 is included in the software component 120. The coordination component 130 coordinates all inputs and outputs of the object 100, and hence of the wireless radio 105. The hardware and software components 110 and 120 are operable to exchange information via interrupts or poll events. The coordination component 130 is operable to receive the ~~at least one~~ hardware input 112 coupled to the hardware component 110 and the ~~at least one~~ software input 122 coupled to the software component 120. The coordination component 130 controls the operating state of the wireless radio 105 by receiving the ~~at least one~~ hardware input 112 indicative of the target hardware operating state and the ~~at least one~~ software input 122 indicative of the target software operating state and selecting the operating state of the wireless radio 105 consistent with the inputs 112 and 122. The selection of the actual operating state of the wireless radio 105 responsive to the inputs 112 and 122 is described in FIG. 2.

Page 13, line 13 to page 14, line 6.

FIG. 3 illustrates a diagrammatic representation of the software component 120 of FIG. 1 to show further detail, according to one embodiment. In the depicted embodiment, the software component 120, in addition to the coordination component 130, also includes:

- 1) a software driver program 310 to provide an interface between the wireless radio 105 and the IHS (not shown). The IHS includes the wireless radio 105. The software driver program 310 receives a first software control input 312 included in the ~~at least one~~ software input 122 and generates a first software output 322 included in the ~~at least one~~ software output 124. For example, the first software control input 312 indicating a target software driver operating state is changed by a

call made to an operating system of the IHS. As described earlier, the first software output 124 is indicative of the operating state of the wireless radio 105.

2) a user interface (UI) program 320 to provide feedback information to the user and/or the IHS. In some cases, the UI program 320 may generate the at least one software input 122. The UI program receives a second software control input 314 included in the ~~at least one software input 122~~ and generates a second software output 324 included in the ~~at least one software output 124~~. As described earlier, the second software output 324 is indicative of the operating state of the wireless radio 105. In one embodiment, the second software output 324 includes a graphical user interface (GUI) element, an icon, or a simulated light emitting diode (LED). In response to receiving the feedback via the first and second software outputs 322 and 324, the user and/or the IHS may change the inputs 112, 312 and 314 to change the operating state of the wireless radio 105.

Page 14, line 28 to page 15, line 9.

In the S3 440 state the target hardware and software operating states indicated by the inputs 112 and 122 are enabled. In accordance with the truth table 200 described in FIG. 2, the wireless device 105 is selected to be in the enabled operation state, e.g., the S3 440 state. In the enabled operating state, the wireless radio 105 is made capable of receiving and/or transmitting. The ~~at least one hardware output 114~~ and the ~~at least one software output 124~~ provide feedback to the user and/or the IHS by indicating the present operating state of the wireless radio 105, e.g., the S3 440 state. In one embodiment, the ~~at least one hardware output 114~~, which is implemented as a LED, is turned on to indicate the wireless radio 105 is enabled. The second software output 324 provides feedback displaying a text message 'disable radio'.

Page 15, line 11 to page 15, line 28.

Transition from the S3 440 state to the S1 state 420 occurs by disabling input 112. The reverse transition occurs by enabling input 112. In the S1 420 state, the target hardware operating state indicated by the input 112 is disabled and the target software operating state indicated by the input 122 is enabled. In accordance with the truth table 200 described in FIG. 2, the wireless device 105 is selected to be in the disabled operation state, e.g., the S1 420 state. In the disabled operating state, the wireless radio 105 is made incapable of receiving and/or transmitting. The at least one hardware output 114 and the at least one software output 124 provide feedback to the user and/or the IHS by indicating the present operating state of the wireless radio 105, e.g., the S1 420 state. In one embodiment, the at least one hardware output 114, which is implemented as a LED, is turned off to indicate the wireless radio 105 is disabled. The second software output 324 provides feedback displaying a text message 'enable radio'. Transition from the S1 420 state to the S0 state 410 occurs by disabling input 122 and a reverse transition occurs by enabling input 122. In one embodiment, while attempting to transition from S0 410 state to the S1 420 state, the second software output 324 pops up a feedback message 460 indicating "Your wireless radio is still disabled. Use your hardware component input to enable it".

Page 16, line 1 to page 16, line 18.

Transition from the S3 440 state to the S2 state 430 occurs by disabling input 114. The reverse transition occurs by enabling input 114. In the S2 430 state, the target hardware operating state indicated by the input 112 is enabled and the target software operating state indicated by the input 122 is disabled. In accordance with the truth table 200 described in FIG. 2, the wireless device 105 is selected to be in the disabled operation state, e.g., the S2 430 state. In the disabled operating state,

the wireless radio 105 is made incapable of receiving and/or transmitting. The at least one hardware output 114 and the at least one software output 124 provide feedback to the user and/or the IHS by indicating the present operating state of the wireless radio 105, e.g., the S2 430 state. In one embodiment, the at least one hardware output 114, which is implemented as a LED, is turned off to indicate the wireless radio 105 is disabled. The second software output 324 provides feedback displaying a text message 'enable radio'. Transition from the S2 430 state to the S0 state 410 occurs by disabling input 112. The reverse transition occurs by enabling input 112. In one embodiment, while attempting to transition from S0 410 state to the S2 430 state, the second software output 324 pops up a feedback message 470 indicating "Your wireless radio is still disabled. Use your software component input to enable it".

Page 16, line 20 to page 17, line 1.

In the S0 410 state, the target hardware and software operating states indicated by the inputs 112 and 122 are both disabled. In accordance with the truth table 200 described in FIG. 2, the wireless device 105 is selected to be in the disabled operation state, e.g., the S0 410 state. In the disabled operating state, the wireless radio 105 is made incapable of receiving and/or transmitting. The at least one hardware output 114 and the at least one software output 124 provide feedback to the user and/or the IHS by indicating the present operating state of the wireless radio 105, e.g., the S0 410 state. In one embodiment, the at least one hardware output 114, which is implemented as a LED, is turned off to indicate the wireless radio 105 is disabled. The second software output 324 provides feedback displaying a text message 'enable radio'.

Page 18, line 1 to page 18, line 13.

In one embodiment, the link 472 transfers values for the ~~at least one~~ hardware input 112 received from the hardware component 110 to the coordination component 130, and the link 474 transfers values for the ~~at least one~~ software input 122 from the software component 120 to the coordination component 130. In some cases the links 472 and 474 are used to transfer signals from the coordination component 130 to the hardware and software components 110 and 120 respectively. For example, feedback signal indicative of the actual operating state of the wireless radio 105 is transferred from the coordinator component 130 to the hardware and software components 110 to be output as the ~~at least one~~ hardware and software outputs 114 and 124 respectively. In one embodiment, the ~~at least one~~ hardware input 112 is provided to the software component 120 via the coordinator component 130. Similarly, the ~~at least one~~ software input 122 is provided to the hardware component 110 via the coordinator component 130.

Page 18, line 15 to page 18, line 19.

In one embodiment, the coordination component 130 may receive the ~~at least one~~ hardware input 112 indirectly through the software component 120. That is, the hardware component 110 may send signals directly (not shown) to the software component 120 via interrupts or poll events. The software component 120 provides inputs to the coordination component 130 via the link 474.

Page 18, line 21 to page 19, line 6.

In the depicted embodiment, the state machine 400 is included in the coordination component 130. In one embodiment, the state machine 400 is implemented in the hardware component 110, the software component 120, the



firmware component (not shown), or a combination thereof. In accordance with the truth table 200 described in FIG. 2, the coordination component 130 receives the at least one hardware and software inputs 112 and 122 and selects an enabled or disabled operating state of the wireless device 105 such as the S0-S3 410-430 states, responsive to the inputs 112 and 122. In addition, the coordination component 130 generates feedback signal indicative of the selected, i.e., the actual, operating state of the wireless radio 105, and transfers the feedback to be output as the at least one hardware and/or software outputs 114 and 124 respectively. A state machine context store component 480 is operable to save/retrieve the operating state of the state machine 400 during transitions of the operating state of the IHS such as from power save mode to full performance, or from suspend to resume.